

Abstract

5       A system-level design and simulation environment utilizing a process specification  
tool that is programmatically integrated with the system level design and simulation  
environment thereby enabling the process-flexible design and simulation of Micro Electro-  
Mechanical Systems (MEMS) devices and other micro-fabricated devices is disclosed. The  
process specification tool is a software tool for specifying the details of the fabrication process  
and enables the separation of the process data from the system-level design and simulation  
10   environment. The process specification tool retrieves the process data, which may include  
both the process specification and material properties data. The separation of this process data  
from the system-level design and simulation environment allows the system-level model to  
have process-related parameters whose specification is not fixed, but rather is tied by  
reference to the process data. The tying of components to the process data allows the system-  
15   level environment to extract multiple process parameters for each component model instead of  
requiring duplicate entry of these parameters in each component model, a time-consuming  
and error prone process. Modifications of the process data are programmatically  
communicated to the system-level environment. The dynamic response to changes in the  
process data allows alternative simulations to be run more effectively and quickly than in  
20   traditional IC design environments.